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Note by the President of the Security Council

At its 7488th meeting, held on 20 July 2015 in connection with the item entitled "Non-proliferation", the Security Council adopted resolution 2231 (2015).

In paragraph 4 of the resolution, the Security Council requested the Director General of the International Atomic Energy Agency to provide regular updates to the Council on the implementation by the Islamic Republic of Iran of its commitments under the Joint Comprehensive Plan of Action and to report at any time any issue of concern directly affecting the fulfilment of those commitments.

Accordingly, the President circulates herewith the report of the Director General dated 30 August 2018 (see annex).

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Annex

Letter dated 30 August 2018 from the Director General of the International Atomic Energy Agency addressed to the President of the Security Council

I have the honour to enclose herewith the document submitted to the Board of Governors of the International Atomic Energy Agency (see enclosure).

I should be grateful if you would bring the present letter and the enclosed document to the attention of all members of the Security Council.

(*Signed*) Yukiya **Amano**

Enclosure

[Original: Arabic, Chinese, English, French, Russian and Spanish]

Verification and monitoring in the Islamic Republic of Iran in light of United Nations Security Council resolution 2231 (2015)*

Report by the Director General

A. Introduction

1. This report of the Director General to the Board of Governors and, in parallel, to the United Nations Security Council (Security Council), is on the Islamic Republic of Iran's (Iran's) implementation of its nuclear-related commitments under the Joint Comprehensive Plan of Action (JCPOA) and on matters related to verification and monitoring in Iran in light of Security Council resolution 2231 (2015). It also provides information on financial matters, and the Agency's consultations and exchanges of information with the Joint Commission, established by the JCPOA.

B. Background

2. On 14 July 2015, China, France, Germany, the Russian Federation, the United Kingdom, the United States of America,[1] with the High Representative of the European Union for Foreign Affairs and Security Policy (E3/EU+3) and Iran agreed on the JCPOA. On 20 July 2015, the Security Council adopted resolution 2231 (2015), in which, inter alia, it requested the Director General to "undertake the necessary verification and monitoring of Iran's nuclear-related commitments for the full duration of those commitments under the JCPOA" (GOV/2015/53 and Corr. 1, para. 8). In August 2015, the Board of Governors authorized the Director General to implement the necessary verification and monitoring of Iran's nuclear-related commitments as set out in the JCPOA, and report accordingly, for the full duration of those commitments in light of Security Council resolution 2231 (2015), subject to the availability of funds and consistent with the Agency's standard safeguards practices. The Board of Governors also authorized the Agency to consult and exchange information with the Joint Commission, as set out in GOV/2015/53 and Corr. 1.

3. In December 2016 and January 2017, the Director General shared with Member States nine documents,[2] developed and endorsed by all participants of the Joint Commission, providing clarifications for the implementation of Iran's nuclear-related measures as set out in the JCPOA for its duration.[3]

4. The estimated cost to the Agency for the implementation of Iran's Additional Protocol and for verifying and monitoring Iran's nuclear-related commitments as set out in the JCPOA is €9.2 million per annum. For 2018, extrabudgetary funding is

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* Circulated to the Board of Governors of the International Atomic Energy Agency under the symbol GOV/2018/33.

[1] On 8 May 2018, the President of the United States of America, Donald Trump, announced that the "United States will withdraw from the Iran nuclear deal", 'Remarks by President Trump on the Joint Comprehensive Plan of Action', at: https://www.whitehouse.gov/briefings-statements/remarks-president-trump-joint-comprehensive-plan-action/.

[2] Reproduced in INFCIRC/907 and INFCIRC/907/Add.1.

[3] GOV/2017/10, para. 3.

necessary for €5.1 million of the €9.2 million.[4] As of 27 August 2018, €6.5 million of extrabudgetary funding was available to meet the cost of JCPOA related activities for 2018 and beyond.

5. The Director General met the President of Iran, HE Hassan Rouhani, in Vienna on 4 July 2018, as part of the regular high-level dialogue between the Agency and Iran. They discussed the Agency's safeguards activities in Iran.

C. JCPOA Verification and Monitoring Activities

6. Since 16 January 2016 (JCPOA Implementation Day), the Agency has verified and monitored Iran's implementation of its nuclear-related commitments in accordance with the modalities set out in the JCPOA,[5] consistent with the Agency's standard safeguards practices, and in an impartial and objective manner.[6,7] The Agency reports the following for the period since the issuance of the Director General's previous quarterly report.[8]

C.1. Activities Related to Heavy Water and Reprocessing

7. Iran has not pursued the construction of the Arak heavy water research reactor (IR-40 Reactor) based on its original design.[9,10] Iran has not produced or tested natural uranium pellets, fuel pins or fuel assemblies specifically designed for the support of the IR-40 Reactor as originally designed, and all existing natural uranium pellets and fuel assemblies have remained in storage under continuous Agency monitoring (paras. 3 and 10).[11]

8. Iran has continued to inform the Agency about the inventory of heavy water in Iran and the production of heavy water at the Heavy Water Production Plant (HWPP)[12] and allowed the Agency to monitor the quantities of Iran's heavy water stocks and the amount of heavy water produced at the HWPP (para. 15). On 25 August 2018, the Agency verified that the plant was in operation and that Iran's stock of heavy water

[4] The cost of the provisional application of Iran's Additional Protocol (€3.0 million) and €1.1 million of the €2.2 million for the inspector costs related to the verification and monitoring of Iran's nuclear-related commitments as set out in the JCPOA are being met from the regular budget (GC(60)/2).

[5] Including the clarifications referred to in para. 3 of this report.

[6] GOV/2016/8, para. 6.

[7] Note by the Secretariat, 2016/Note 5.

[8] GOV/2018/24.

[9] The calandria was removed from the reactor and rendered inoperable during preparation for Implementation Day and has been retained in Iran (GOV/INF/2016/1, Arak heavy water research reactor, paras. 3(ii) and 3(iii)).

[10] As indicated previously (GOV/2017/24, footnote 10), Iran has changed the name of the facility to the Khondab Heavy Water Research Reactor.

[11] The paragraph references in parentheses throughout Sections C and D of this report correspond to the paragraphs of 'Annex I — Nuclear-related measures' of the JCPOA.

[12] HWPP is a facility for the production of heavy water which, according to the design information provided by Iran to the Agency on 25 January 2016, has a nominal capacity of 16 tonnes of nuclear grade heavy water per year and an actual capacity of "about 20 tonnes" of nuclear grade heavy water per year. Iran informed the Agency, in a letter dated 18 June 2017, that the "maximum annual capacity of the Heavy Water Production Plant (HWPP) is 20 Tons".

was 122.9 metric tonnes.[13] Throughout the reporting period, Iran had no more than 130 metric tonnes of heavy water (para. 14).

9. Iran has not carried out activities related to reprocessing at the Tehran Research Reactor (TRR) and the Molybdenum, Iodine and Xenon Radioisotope Production (MIX) Facility or at any of the other facilities it has declared to the Agency (paras. 18 and 21).[14]

C.2. Activities Related to Enrichment and Fuel

10. At the Fuel Enrichment Plant (FEP) at Natanz, there have been no more than 5060 IR-1 centrifuges installed in 30 cascades, which remain in the configurations in the operating units at the time the JCPOA was agreed (para. 27). Iran has withdrawn 34 IR-1 centrifuges from those held in storage[15] for the replacement of damaged or failed IR-1 centrifuges installed at FEP (para. 29.1).

11. Iran has continued the enrichment of UF_6 at FEP.[16] Iran has not enriched uranium above 3.67% U 235 (para. 28).

12. Throughout the reporting period, Iran's total enriched uranium stockpile has not exceeded 300 kg of UF_6 enriched up to 3.67% U 235 (or the equivalent in different chemical forms) (para. 56). The quantity of 300 kg of UF_6 corresponds to 202.8 kg of uranium.[17]

13. As of 18 August 2018, the quantity of Iran's uranium enriched up to 3.67% U-235 was 139.4 kg,[18] based on the JCPOA and decisions of the Joint Commission.[19]

14. At the Fordow Fuel Enrichment Plant (FFEP), no more than 1044 IR-1 centrifuges have been maintained in one wing (Unit 2) of the facility (para. 46). On 14 August 2018, the Agency verified that 1020 IR-1 centrifuges were installed in six cascades. On the same date, the Agency also verified that five IR-1 centrifuges were installed in a layout of 16 IR-1 centrifuge positions[20] and one IR-1 centrifuge was installed in a single position,[21] for the purpose of conducting "initial research and R&D activities related to stable isotope production".[22,23] Throughout the reporting period, Iran has not conducted any uranium enrichment or related research and

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[13] On 25 August 2018, the Agency confirmed that, since the Director General's previous report, 2.1 metric tonnes of heavy water had been shipped out of Iran. The Agency confirmed that, as of 25 August 2018, Iran had used 2.2 metric tonnes of heavy water for research and development (R&D) activities related to the production of deuterated compounds for medical applications since JCPOA Implementation Day. These R&D activities were conducted under continuous monitoring by the Agency.

[14] Including hot cells at TRR and the MIX facility and shielded cells, referred to in the decision of the Joint Commission of 14 January 2016 (INFCIRC/907).

[15] Para. 15 of this report.

[16] Under the JCPOA, "[f]or 15 years the Natanz enrichment site will be the sole location for all of Iran's uranium enrichment related activities including safeguarded R&D" (para. 72).

[17] Considering the standard atomic weight of uranium and fluorine.

[18] Comprising 115.5 kg of uranium in the form of UF_6; 16.5 kg of uranium in the form of uranium oxides and their intermediate products; 4.3 kg of uranium in fuel assemblies and rods; and 3.1 kg of uranium in liquid and solid scrap.

[19] Decisions of the Joint Commission of 6 January and 18 December 2016 (INFCIRC/907), and 10 January 2017 (INFCIRC/907/Add.1).

[20] GOV/2017/48, footnote 20.

[21] On 29 January 2018, Iran provided the Agency with updated design information for FFEP, which included a temporary setup for a single IR-1 centrifuge position for "separation of stable isotopes" in Unit 2.

[22] GOV/2016/46, para. 12.

[23] On 14 August 2018, 18 IR-1 centrifuges were not installed and were stored within the facility under Agency monitoring.

development (R&D) activities, and there has not been any nuclear material at the plant (para. 45).

15. All centrifuges and associated infrastructure in storage have remained under continuous Agency monitoring (paras. 29, 47, 48 and 70).[24] The Agency has continued to have regular access to relevant buildings at Natanz, including all of FEP and the Pilot Fuel Enrichment Plant (PFEP), and performed daily access upon Agency request (para. 71). The Agency has also continued to have regular access to FFEP, including daily access upon Agency request (para. 51).

16. Iran has conducted its enrichment activities in line with its long term enrichment and R&D enrichment plan, as provided to the Agency on 16 January 2016 (para. 52).

17. On 19 August 2018, the Agency verified that all irradiated TRR fuel elements in Iran have a measured dose rate of no less than 1 rem/hour (at one metre in air).

18. Iran has not operated any of its declared facilities for the purpose of re-converting fuel plates or scrap into UF_6, nor has it informed the Agency that it has built any new facilities for such a purpose (para. 58).

C.3. Centrifuge Research & Development, Manufacturing and Inventory

19. No enriched uranium has been accumulated through enrichment R&D activities, and Iran's enrichment R&D with and without uranium has been conducted using centrifuges within the limits defined in the JCPOA (paras. 32–42).

20. Iran has provided declarations to the Agency of its production and inventory of centrifuge rotor tubes and bellows and permitted the Agency to verify the items in the inventory (para. 80.1). The Agency has conducted continuous monitoring, including through the use of containment and surveillance measures, and verified that the declared equipment has been used for the production of rotor tubes and bellows to manufacture centrifuges only for the activities specified in the JCPOA (para. 80.2). Iran has not produced any IR-1 centrifuges to replace those that have been damaged or failed (para. 62).

21. All declared rotor tubes, bellows and rotor assemblies have been under continuous monitoring by the Agency, including those rotor tubes and bellows manufactured since Implementation Day (para. 70). Iran has manufactured rotor tubes using carbon fibre that has been sampled and tested by the Agency, all of which has been subject to Agency containment and surveillance measures. [25,26]

D. Transparency Measures

22. Iran has continued to permit the Agency to use on-line enrichment monitors and electronic seals which communicate their status within nuclear sites to Agency inspectors, and to facilitate the automated collection of Agency measurement recordings registered by installed measurement devices (para. 67.1). Iran has issued long-term visas to Agency inspectors designated for Iran as requested by the Agency, provided proper working space for the Agency at nuclear sites and facilitated the use of working space at locations near nuclear sites in Iran (para. 67.2).

23. Iran has continued to permit the Agency to monitor — through measures agreed with Iran, including containment and surveillance measures — that all uranium ore concentrate (UOC) produced in Iran or obtained from any other source is transferred

[24] GOV/2016/46, footnote 15.
[25] Decision of the Joint Commission of 14 January 2016 (INFCIRC/907).
[26] GOV/2016/46, para. 18.

to the Uranium Conversion Facility (UCF) at Esfahan (para. 68). Iran also provided the Agency with all information necessary to enable the Agency to verify the production of UOC and the inventory of UOC produced in Iran or obtained from any other source (para. 69).

E. Other Relevant Information

24. Iran continues to provisionally apply the Additional Protocol to its Safeguards Agreement in accordance with Article 17(b) of the Additional Protocol, pending its entry into force. The Agency has continued to evaluate Iran's declarations under the Additional Protocol, and has conducted complementary accesses under the Additional Protocol to all the sites and locations in Iran which it needed to visit. Timely and proactive cooperation by Iran in providing such access facilitates implementation of the Additional Protocol and enhances confidence.

25. As previously reported, in January 2018, the Agency requested Iran to provide further clarifications and amplifications under the Additional Protocol regarding its plans relevant to the development of the nuclear fuel cycle, including R&D activities, for naval nuclear propulsion.[27] In a letter dated 28 April 2018, Iran informed the Agency that "[f]or the first five years, no facility will be involved" and the "[n]uclear fuelled engines/reactors will be used for civilian purpose", and that additional information would be provided to the Agency "in the next updating of the Additional Protocol declarations for 2017". In May 2018, Iran provided this information to the Agency in the updated Additional Protocol declarations for 2017.

26. The Agency's verification and monitoring of Iran's other JCPOA nuclear-related commitments continues, including those set out in Sections D, E, S and T of Annex I of the JCPOA.

27. During this reporting period, the Agency has not attended meetings of the Procurement Working Group of the Joint Commission (JCPOA, Annex IV — Joint Commission, para. 6.4.6).

F. Summary

28. The Agency continues to verify the non-diversion of declared nuclear material at the nuclear facilities and locations outside facilities where nuclear material is customarily used (LOFs) declared by Iran under its Safeguards Agreement. Evaluations regarding the absence of undeclared nuclear material and activities for Iran remained ongoing.

29. Since Implementation Day, the Agency has been verifying and monitoring the implementation by Iran of its nuclear-related commitments under the JCPOA.

30. The Director General will continue to report as appropriate.

[27] GOV/2018/7, para. 24.